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OCCUPATIONAL STRESS: ASK ALBERTA FARM OWNERS

by

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University of Alberta

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

IN

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EDUCATIONAL PSYCHOLOGY

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled OCCUPATIONAL STRESS: ASK ALBERTA FARM OWNERS submitted by PAMELA ANN GRANT in partial fulfilment of the requirements for the degree of MASTER OF EDUCATION in COUNSELLING PSYCHOLOGY.

Supervisor

Date 17 July 1980

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Abstract

Stress variables related to the farming occupation were identified. The preliminary development of a work/life stress scale resulted from 240 responses to a survey of Alberta farm owners (and spouse, if applicable). Factor analyses, correlations and two analyses of variance were performed on the data. Five factors of farm stress were found to be associated with anxiety as measured by the IPAT, and with various demographic variables.

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Pamela Grant

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I. The Problem

"How ya gonna keep 'em down on the farm?"

It is recognized that stress is related to illness, accidents, and coronary heart disease (CHD). (National Institute of Occupational Health and Safety, 1974). Stress is often talked about by the layman and the media. Caplan, Cobb, French, Harrison and Pinneau (1975) state that a small but significant proportion of the general population (15%) report strain at a high risk level. Cooper and Marshall (1978) cite a study by McDonough (1965) that found farm owners more suseptible to CHD than farm labourers despite comparable activity rates.

Hirsch (1979) reported that owning and operating a farm now ranks in the upper 10% of 130 high stress occupations. Gogerty(1978) surveyed farmers and found that the major causes of stress in order of importance were (1) economic pressures, (2) heavy workloads, (3) weather-worries and (4) decision-making difficulties. Most respondents mentioned negative emotional states and digestion problems as results of stress. Gogerty (1979) also found that 80% of respondents felt they suffered more from stress today than they did 10 years ago.

Although many articles relating to farm stress appear in popular magazines, the psychological literature is bereft of empirical studies on the farming occupation. One reason

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for this could be the social myth that rural life is imagined to be full of clean air and happiness, "mom and apple pie," a peaceful kingdom (Sproxton, 1976). The Canadian literature of prairie life illustrates that from the farmers perspective, life is far from peaceful, though there is a sense of community.

The actual number of farms in Alberta has decreased by 12,000 (5.8%) between 1966 and 1976 (Statistics Canada, 1976). Farmland is being bought by developers, so that it is increasingly more difficult to set up a farm. This has created 'bedroom' communities for urbanites in rural areas, with a resulting change in community atmosphere (MacGregor, 1980). Rising land costs make the initial captial increasingly more difficult for family members to obtain their own property or for the family farm to expand.

The farming occupation is becoming more complex; accidents tend to be serious; CHD is increasing, and more people are leaving farming than are starting out. The reasons for this may be revealed by identifying the major contributing factors to stresses in the family farm unit.

The problems outlined above and the research gap have led to the present study, which was designed to measure the psychological attitudes of the farmer and the farm wife in relation to their occupation/life events rather than specific characteristics (job components analysis) of the farming occupation. This will result in the preliminary development of an instrument to measure stress levels of a

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farm population and the quantification, calibration and validation of previous anecdotal findings.

The research is both exploratory and descriptive in nature. The assumption is that farm families have considerable pressures to cope with what may be affecting the future security of the family farm. The long range possibility for producing an effective stress scale is to predict strain for those people who would fall in the 15% range identified by Caplan et al (1975). This may help predict a major illness, accident or CHD before it happens. The use of preventative intervention programs could then be implemented.

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II. Review of the Literature

There are few studies which directly relate to stresses in the farming occupation. The following chapter will review the occupational stress (OS) research related to definitions of stress, and to variables contributing to work stress. A conceptual framework is outlined. A brief review of anxiety in relation to the IPAT Scale is then given. A section will be devoted to identifying occupational health variables associated with illness and accidents. The next section will examine rural sociological studies and the preliminary findings of Unifarm (1978) which identified major factors thought to be related to farm stress. The research hypotheses are enumerated.

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A. Occupational Stress

A majority of research prior to 1978 is full of conflicting definitions, confused results and questionable conclusions. Stress has been used to denote pressure on an individual (eg. work overload), its effects (eg.job performance), and the person's reaction (eg.smoking). Varying usage of the term in empirical research has also contributed to conceptual confusion. Stress has been studied as a list of environmental conditions considered to be stressful, a restatement of the concept using some other word, eg. anxiety, and has been operationally defined according to each researchers need (MacLean, 1974).

Definitions of Stress

'Stress' has been used by various authors as a *stimulus*, *response*, or an *intervening* variable, therefore each definition will be outlined according to author.

Historically, the scientific use of the term 'stress' was introduced by the engineers. It was defined by Hooke's Law which states: stress is a demand or load placed on a metal, strain is the deformation which results. Selye (1974) has a biological theory of stress which looks at physiological changes in the stress process. He postulates that stress is both positive and negative. Negative consequences are illness, accidents or death. Stress is defined by Selye as a non-specific response to stressors.

Kahn, Wolfe, Quinn and Snoek (1964) proposed two major concepts role conflict/role ambiguity to account for stress at work. Role conflict is a discrepancy between ones' self image and ones' behavior or expected behavior. Role ambiguity is a lack of structure as to what to do or how to do a task. Lack of role ambiguity or 'boredom' can be equally stressful. There seems to be a comfort zone between boredom and distress where an individual can maintain a homeostasis.

MacLean (1974) defines stress as changes in the environment of such magnitude that it requires more from an individual to adapt and maintain a homeostasis. The most widely accepted definition of stress (Cooper & Payne, 1978) comes originally from McGrath 1970, as a *(perceived)*

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substantial *imbalance* between demand and response *capability*, under conditions where failure to meet demand has important *(perceived)* consequences. Hence the definition has moved to an interactionist perspective accounting for the person's internal perception and the objective environment.

Cummings and Cooper (1979) have outlined a systems theory of stress. They define *stress* as any force which displaces a variable beyond its range of stability. *Threat* is the knowledge that a stress is likely to occur. Threat is also considered to be an independent variable. *Strain* is an intervening variable which is the immediate consequence of threat and stress. Adjustment processes are considered to be dependent variables. These include both the immediately disruptive effects (eg. increased pulse rate) and long term effects (eg. smoking) of strain. Where Cummings and Cooper define strain, Selye would define stress.

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Research Findings

Different stressors affect different people at different times. (MacLean, 1974, Cooper & Payne, 1980, Selye,1974) Occupational stress is usually separated from life stress so these two measures have never been evaluated concurrently. (Cooper & Marshall,1976; & National Institute of Occupational Health and Safety, 1974) This approach is changing as Burke, Weir, & Duwors (in press) have examined both. Their study found weak relationships between

occupational demands and measures of physiological and physical health strains. Significant relationships were found between four occupational demands as they affect non-work events. These are concentration, hours of work per week, job future ambiguity, and stress in communicating. Negative affective states such as anxiety and tension were related to these as well. Concentration and stress in communicating were two variables significantly related to the development of psychosomatic symptoms and were also found to have a negative impact on family life. They recommended that future research examine the work-family interface.

MacLean (1974) comments that stress studies should include all of the following measures to obtain a comprehensive appraisal of the effects of stress: (1) subjective states, eg. tension, (2) chronic respones, eg. fatigue, (3) physiological changes, eg. blood pressure, (4) health status, eg. psychosomatic complaints and (5) work performance decrement, eg. accidents, illness.

This brief overview of OS findings was designed to illustrate the types of variables, occupations, and measures used. However, very few studies of work stress can be used in explaining stress factors relevant to farming. The difference in expectations and the uncertainty of income for the farmer alters the importance hierarchy of factors.

The problem with applicability of OS findings to farm research is that in all occupational groupings, ie.

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policemen, air traffic controllers, and executive there is a contractual arrangement for wages or salary between the employer and the employee. The only risk or uncertainty involves the loss of employment. Whereas the farmer is in the unique situation not only of living and working in the same environment, but depending on an income which is largely outside of his/her control, eg. market conditions, and weather.

B. Conceptual Framework

Cummings and Cooper (1979) have outlined a cybernetic approach to stress, which is concerned with the use of information processing and feedback. The authors borrow heavily from the Person-Environment (P-E) fit theory of stress which has its roots in Lewin's personality theory. P-E fit is the notion that perceived demands and abilities match objective demands and abilities required of a job. Time is an important parameter.

Stress is defined as per the definitions section, but also as a dynamic process or cycle. There are four phases which attempt to integrate the environmental situation, individual differences, behavior patterns, and personality characteristics which are all involved in moderating or mediating the extent to which a person is stressed.

The four phases of the stress cycle are: detection of strain, choice of adjustment processes, implementation of adjustment processes, and the effects of adjustment on the

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stress or threat. This study deals with part of the first phase, detection of strain. In order to evaluate how the other three phases fit, one must first understand and evaluate whether there is stress amongst farmers and what form it takes. The second part of the detection phase involves measurement of the individuals preferred state. The disparity between the two provides the identification of strain.

Anxiety is postulated to be a personality variable related to symptoms of stress, which leads to the next discussion.

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C. Anxiety

Consensus for the definition of anxiety is as much a problem as with the stress research, even though the concept is much older and more established in the literature. Agreement of authors in the Speilberger (1972) series is that stress produces anxiety.

Three types of anxiety are defined. Trait anxiety is a personality characteristic that predisposes a person to more frequent and more intense reactions to stressors. This relates to the previous discussion concerning the detection phase. State anxiety is situationally defined and fluctuates over time. It consists of feelings of tension, apprehension and heightened activity.

Anxiety-as-process is the mediating link between state and trait anxiety. It is the whole sequence of events:

stress-(defined as external environmental conditions) *perception of danger (which is an acutely unpleasant state of arousal following this perception, Epstein, in Spielberger, 1975)*state anxiety. Cognitive, affective and behavioral responses occur as a result of stress. Lazarus (in Speilberger, 1972) postulates that cognitive appraisal of uncertainty and anticipation are important intervening variables in defining anxiety. For the farmer during seeding and harvesting times these are very real conditions to be uncertain of the weather, or to anticpate changes in market conditions which may affect income.

Threat is most frequently used in the anxiety literature to be a 'state where an individual anticipates harm.' This is a reasonable parallel to the stress research definition. However, many authors would like to define stress exclusively in terms of environmental conditions, as a more limited concept than anxiety. This probably is derived from the fact that many studies on stress and anxiety equate the two (National Institute of Occupational Safety & Health, 1974).

Cattell and Scheir (1957) developed a questionnaire called the IPAT to measure anxiety. This is a well validated and reliable instrument. The items are derived from the 16PF scale. The test includes 40 items; the first 20 measure covert or hidden anxiety and the last 20 measure overt or conscious anxiety. The scale is also divided in half in terms of second-order factors involving apprehension,

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tension, low self-control, emotional instability and suspicion. The components mentioned above are used mainly for experimental purposes as there are no norms available nor have these components been validated. High scores are indicative of high anxiety, a personality factor which predisposes a person to more intense or frequent reactions to threat.

Sex differences in several studies mentioned by Cattell et al (1963) show females to have consistently higher scores than do males. Norms were developed by sex for the general population, and for college students. Cattell et al found that between 20 and 60 years of age anxiety scores are fairly constant, with an increase after this age. Education was not found to be a related variable. Their view is that anxiety is a unitary factor pattern, one aspect of personality, but can fluctuate markedly over time. Speilberger (1972) would argue that the IPAT is a measure of trait anxiety.

A person's attitude towards certain events or situations determines the way he/she will react. One of these psychological barriers to acting in a functional way is anxiety. Anxiety is often defined as a 'perceived' threat. Stress is also defined as such. The two definitions overlap. Stress is a more global term in the stress literature than is anxiety. The opposite is true in the anxiety literature, where anxiety is conceptualized as a complex of negative emotions, and stress is defined in terms

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of environmental conditions.

D. Occupational Health

Coronary heart disease (CHD) is a major cause of death in today's society. It is also known to be related to stress. Among those people who are at high risk are farm owners as was outlined in the statement of the problem (Cooper & Marshall, 1976, & Gogerty, 1978). Rosenmann and Friedman, (cited NIOSH, 1974) have hypothesized that stress, specifically CHD is related to particular behavior patterns. They define two types of people. The Type A individual who has a fast pace of living and is CHD prone and the Type B who is more relaxed and easy going. They account for differences in terms of lifestyle and perceptions. The Type A always feels a time urgency and is usually a workaholic. These two authors have developed a pattern interview which takes approximately a half-hour.

Stress scales available for use to predict a major illness, or CHD are The Holmes/Rahe (1967) Life Change Units Scale, which measures actual life events, and an instrument validated to the pattern interview called the Jenkins Activity Scale. There is no scale to date which integrates work/life variables to predict stress.

The link between stress and accidents/illness, is inconclusive. Such variables studied are age, sex and personality. Correlation studies are most often done, therefore causality can only be inferred. Accidents due to

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inattention are well documented in the literature. Manifestations of stress include preoccupations with intruding thoughts that interfere with devoting full concentration to a task. The Occupational health literature uses the following model of stress.

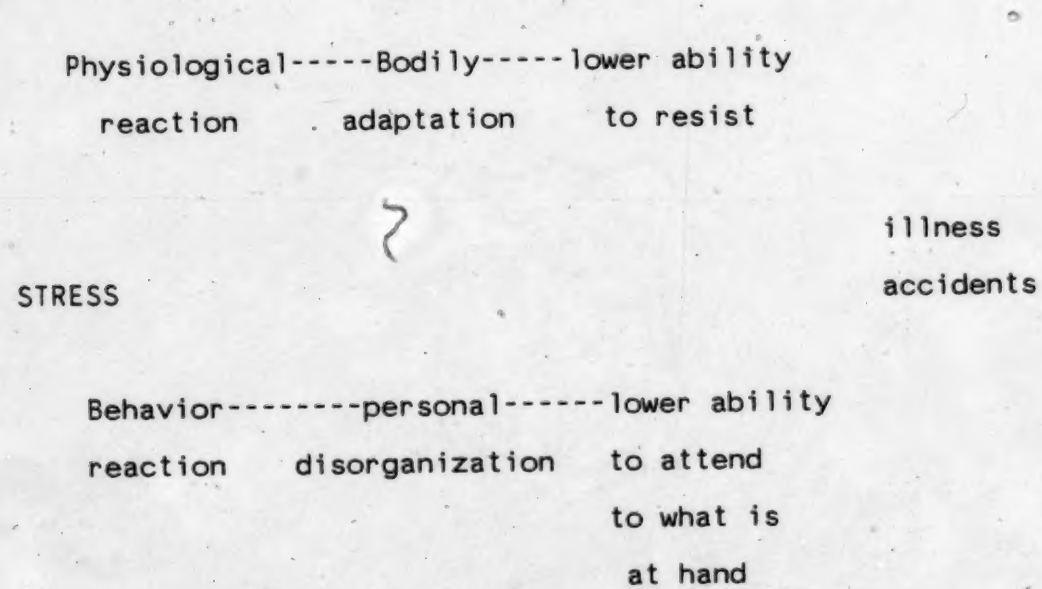

FIGURE 1. Model of Stress

Anderson and Kyeremanteng (1979) did a longitudinal study, involving actual farm accidents. They found that the most frequent farm accidents occured in the 18-34 year old age range followed by the 45-60 year old age group: mixed farmers had the highest incidence; farm machinery was usually involved.

The National Institute of Occupational Safety & Health (1974) reviewed the literature relating accidents to age.

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They mention a study by King (1955), which found different types of accidents occur with changes in age. He found agricultural accidents including falls and being hit on the head by moving objects increase with age, while getting caught in a machine or starting a machine decrease with age.

Evidence strongly supports the finding that accidents occur more frequently to younger age groups. Types of research supporting this are mainly studies of traffic or industrial accidents. Caution should be exercised when interpreting the research as accident statistics are a function of: (1) Types of hazards the worker is exposed to, (2) attrition rate in sample of repeated accident victims biasing the results, (3) the method of report, (different age groupings), and (4) differences between new workers on the job regardless of age (experience). With reference to the first caution, types of psychological hazards for farmers differ from other workers because they are exposed to the uncertainty of the weather, market price, and cash yield of their crop.

Statistics Canada (1966, 1976) report that the proportion of farm owners in Alberta within the 45-64 age range comprises 47.6% of the total farm population. A criticism of the Anderson may be that there were more older males to have accidents hence the finding.

The National Institute of Occupational Safety & Health (1974) recommends that future research examine the attitude of the worker towards the job; this may be a variable

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comparable to inexperience and help to determine the higher accident rate for younger workers. The conclusion reached by the NIOSH team is that many more studies indicate young people have more accidents than older people.

The NIOSH report also examined studies related to sex and illness and work accidents in the industrial environment. More men are in this environment, therefore the statistics are less definitive for women. Studies which control for age, experience *and* comparable work conditions are rarely found in the literature. Women have traditionally been in more protective jobs and therefore have less exposure to hazards. It is not surprising then that most evidence supports the hypothesis that women have fewer accidents. Some evidence suggests that single women under 35 have more accidents than do married women of the same age.

Two points of view are taken: (1) sex is a descriptive category and not a causative factor in accidents or illness and (2) biological sex differences account for different accident and illness records between men and women.

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E. Rural Sociology

According to Shaw (1979) who reports for Statistics Canada, the ratio of urban to rural population in Canada is 16,410,875 to 1,419,795. Approximately 8% of the total population is rural. In Alberta the ratio is 1,196,225 to 236,030 or 16.4 % of the population is rural.

Statistics Canada (1976) report that the percentage of

young farmers (under 45) in Alberta has not changed since 1966. Many younger people are choosing urban living and this may be why the average age of farmers is not dropping.

In terms of status and prestige on Oppenheim's (1966) status scale, farmers rank the lowest while architects rank the highest. It seems that professionals, management, and military occupational groupings are the favored choice of occupation. This may be in part a function of accessibility but could be related to their perceived contribution to society. Thus farmers have been neglected as a research population.

Gill and Murri (1975) discuss changes in the rural community affecting social problems. Technological change has meant increased farm productivity, fewer farmers, larger farms, off-farm employment and people leaving the occupation altogether. As well, increased centralization, farm specialization and increased communication have shifted decisions affecting farmers away from the rural community. This has meant a decline in the importance of the locality, less kinship and less personal neighborly relations.

Handy (in Cooper & Payne, 1978) states that family support is an important variable in the adjustment process of stress. From what Gill and Murri indicate technological change is placing more demands and environmental constraints on farmers.

Statistics Canada (Shaw, 1979) states farm incomes in terms of the various types of farm operations. Soil types

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outlined in Brocke (1977) place limitations on the land use, therefore the types of stresses may differ depending on the type of farm operation. The soil classification system defines capabilities for land use according to climate, topography and landscape. Therefore the soil type is almost a direct representation of income in terms of limitations of types of crops that will grow. This in turn defines the type of farm operation.

Linabary's (1980) article discusses 'The problem farm husbands won't discuss', that is the change in role and attitudes of rural women. Many younger wives are not coming from rural backgrounds and are demanding more independence. Linabary describes a case study of difficulties a couple face in relation to farm management decisions and sexual satisfaction.

Wilson (1976) provided a job components and time breakdown of a farm wife's duties. She concluded that for current wages in 1973 a wife was worth between 8,000 and 12,000 dollars a year in unpaid labour. The form of the family farm unit is changing and with it comes an increase in divorce.

Crocker (1980) devised a Farm Stress Scale to measure job components and rated them according to their stress producing ability. For example, 'working associate has a major farm-related accident' is a score of 67, 'farm machinery breakdown of a minor nature' receives a score of 8. Crocker found that stress factors in order of importance

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were: (1) financial problems or worries, (2) uncertainty, (3) people problems, (4) fluctuations in workload, and (5) worries about old age and illness.

She also found stress levels to be higher among starting farmers and farmers near retirement than those in the middle of their career. Stress levels for young farmers were especially high just prior to the occurance of a major accident. No mention of the reliability or of the validity of the scale is given. This study reinforces the notion that stress patterns among farmers differ from those of the white collar worker, where mid-career time is found to be the most stressful.

The Women of Unifarm (1978-79) have devoted 2 Spring Programs to understanding and coping with farm stress. Their preliminary findings identified what they consider to be the major stresses. The data was collected through Stress Workshops held in 15 regions in Alberta. Participants were predominanty Women; the total sample size was 521. The size of groups varied from 26 to 75.

Their first report (1978) delineated 11 factors thought to be contributing to stress. The results may not reflect the views of the general farm population as silent members in the groups may have had ideas not openly expressed, male farmers were not adequately represented, and all geographic regions were not sampled.

Results indicated the following 11 factors in order of importance: (1) finance, (2) family relationships, (3)

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work(eg. quantitative/qualitative overload), (4) land use issues, (5) farm management, (6) health, (7) weather, (8) community social problems, (9) retirement, (10) time, and (11) environment.

What are the major factors contributing to stress in the family farm unit in Alberta? Because of the lack of an adequate stress instrument involving both life and work events, and the lack of scientific research in the area, a scale will be developed in the process of identifying stresses relating to farming. This will be named the PAMS or the Personal Attitude Measure of Stress. These stresses will be investigated in light of the variables described in the review of the literature, which may affect the extent to which individuals experience stress.

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Research Questions

1. Do females have higher anxiety than males on the farm?
2. Is PAMS a reliable instrument?
3. Is PAMS measuring a single phenomenon 'stress'?
4. Is there a relationship between PAMS and the type of farm operation?
5. Is there a relationship between PAMS and age?
6. Is there a relationship between PAMS and sex?
7. Is there a relationship between PAMS and high school education?
8. Is Anxiety as measured by the IPAT related to PAMS?

III. Method

A. Overview

The method in general was to select a sample of farm people and to administer both the IPAT anxiety scale and the Personal Attitude Measure of Stress (PAMS). Participation was voluntary. No incentives were given.

B. Respondents

The participants were selected from a November 1979 membership list of 8,572 members of the Women of Unifarm organization. This organization provides information to farmers on current issues, publishing a monthly magazine called "Farm Trends."

A sample of 998 farm couples was obtained by a random sampling technique for all 64 agricultural districts in Alberta. A total of 1,996 forms were mailed out, two per household. The study was designed to include only farm owners and the spouse (if applicable) who were living and working on the farm.

C. Procedure

Pretest

Two District Agriculturalists (DA's) provided the names and telephone numbers of local farm couples who would be willing to participate in the pretest. Twelve couples in the Morinville, Stoney Plain and Spruce Grove regions were

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interviewed. Arrangements were made by telephone to determine a convenient time to interview each family.

These people completed the questions and were encouraged to give their comments concerning readability, length, format and content; these were then incorporated into the questionnaire. The average time taken to complete the booklet was half-an-hour.

Preparation

A memo was distributed two weeks prior to the mailing date to each of the 64 Agricultural Districts (See Appendix). This pre-announcement involved a request to DA's to alert the farmers in their region that a survey was to be mailed and that the results would be beneficial to Agriculture. This approach was intended to increase the response rate (Statistics Canada, 1976).

A package was made up for each family unit. This included a cover letter introducing the author and the study to the member by the President of Unifarm, Leda Jensen (See Appendix). The format of the study was a mail out questionnaire (4 page bound booklet). Various techniques were implemented to increase the response rate (FSAS, 1976, 1977). Two copies of the questionnaire and a postage paid return envelope to the Farm Development Division Alberta Agriculture, was also enclosed. Each envelope was hand written, with no return address and two 17 ¢ stamps on it. This was to insure that county post offices did not assume

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this to be junk mail. The stamps and handwriting added a personal touch.

The letter stated a deadline of two weeks after the mail out for the respondent to reply. The survey was mailed in mid-February, as it was hoped that the farmers in a period of lighter workload would be more likely to participate.

Two weeks after the deadline a follow up letter to non-responders was mailed out by the author using the Farm Safety Program (FSP) letterhead to remind people who may have forgotten about it and to encourage others to take the time to fill it in (See Appendix). Returned questionnaires were accepted until April 30,1980.

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D. Instruments

The IPAT Anxiety Scale (Cattell et al, 1957) was used to measure a predispostion to react more intensely to perceived stress. It was also chosen to obtain concurrent validity on the PAMS.

The demographic data included variables hypothesized in the review of the literature to be related to stress, accidents, illness or CHD. These are: experience, education, age, sex, type of farm operation and soil type number. A land description number was requested in order to cross-validate the soil number recorded, as well as to locate the soil number of those who may have omitted the item.

Development of PAMS

PAMS was designed to tap the contributing factors related to farm stress. Items were generated from the 11 stress factors delineated in the Unifarm (1978) report. The Heimler Scale of Social Functioning (1967) subscale names were used to provide a conceptual framework with which to generate items for each of the 11 factors proposed by Unifarm (1978). There were 6 scale names used: personal, family, financial, work, interests and activities.

The final test length of PAMS was 40 items. This was determined by time necessary to complete the booklet, bulkiness of the booklet and the nature of the population. The final selection was calculated by using a table of random numbers, in order not to bias the type of items included. Increased test length may have reduced the response rate because it would have required more time to complete. The PAMS require the respondent to place a circle and a check mark for each statement (see Appendix). Each item had an intensity (how much) and a frequency (how often) scale. The intensity of concern items employed a seven point Likert scale ranging from 1 (not concerned at all) to 7 (very concerned). This scale was printed to the left of the item. The frequency of concern items employed a five point Likert scale ranging from 1, never (not once in the last year) to 5, always (nearly every day). This scale was printed to the right of each item.

Since PAMS is a new creation, the intensity, frequency

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and a frequency+intensity scores were used for data analysis to see which scale provided the maximum amount of information. The responses indicating how much a person was concerned about the 40 statements was labelled the I-Scale for intensity. The frequency of concern or how often a person thought about each item was labelled the F-Scale. A composite scale was created by adding each response from the I-Scale and the F-Scale together, hereafter called the CA-Scale.

Definitions

Anxiety is defined as the total score on the IPAT questionnaire.

A *Family Farm* is defined as per Duncan and Devereux (1977) as:

> An economically viable farm on which all the management is provided by the members of a family, and which the majority of the ownership (control) of land is in the hands of that same family. (p. 4)

Statistics Canada (1977) provides a compatible definition. They define a census farm to be a holding of one or more acres, and sales of agricultural products during the preceding 12 months of $50 or more. 80% of all census farms in Alberta (52,000) of (61,130) fall within this range.

Stress is operationally defined as that measure on the Personal Attitude Measure of Stress (PAMS).

Stressors are defined as the sources of stress. These

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are the objective environmental conditions affecting the individual.

Limitations

This study is limited in generalizability to Alberta. The economic, topograhic, and climatic conditions may differentially influence the results. The time of year the questionnaire was sent is also an important dimension to consider. There is a seasonal nature to the workload on most Alberta farms. An uninvestigated question is: Is the off-season (boredom factor) more stressful than the planting and harvesting times (work overload factor)? Ability to read the English language may have biased the sample in terms of the education parameter. PAMS is a new scale and the necessity for caution in interpreting the results must be mentioned.

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IV. Results

A total of 469 people responded or approximately 18.5%. A final selection of complete data yielded a total N=240 or a 12 % response rate. This was used for all analyses.

The first section of the questionnaire consisted of 13 demographic variables. Table 1 illustrates the distribution of responses on ten of these variables. The most frequently mentioned responses regarding the open ended question concerning education is also shown.

Most of the respondents were between the ages of 45 and 64 and 44 % of them had completed grade 12. Sudman (1976) states that sample bias is the degree to which the sample differs from the target population. In this respect the percentage of respondents according to age group is comparable to those reported from Statistics Canada (1976). Statistics Canada reports that 39.9 % are between the 25-44 age group, 47.6 % are in the 45-64 age group and 9.1% of the farm population are 65 or older. Four people (1.6 %) did not report their sex.

Table 2 illustrates the means of the continuous demographic variables. It can be seen that the respondents are largely coming from rural backgrounds, and not just starting out.

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Table 1

Demographic Characteristics of Sample Used

(A)CLI RATINGS OF SOIL TYPE	%
1 no significant limit.	6.7
2 moderate limitation	35.0
3 moderate severe limit.	25.4
4 severe limitation	17.9
5 very severe limitation	1.7
6 perennial forage crop	4.6
7 no capability/pasture	3.3
no response (n/r)	3.7

(B)TYPE OF FARM OPERATION	%
1 Grain	24.6
2 mixed	66.3
3 Poultry	0
4 Dairy	4.6
5 Hog	2.1
6 seed	1.6

(C)SEX	%
Females	44.6
Males	53.8

(D)YEARS ON FARM	%
1-9	7.5
10-20	11.3
over 20	72.9

(E)OTHER COURSES	
welding	N=11
nursing(+RN)	N=10
mechanics(all types)	N=9
secretarial	N=9
farm management	N=8

(F)YEARS OWNED	%
1-9	15.0
10-20	32.1
over 20	35.0
n/r or <1	17.9

(G)AGE IN YEARS	%
25-44	39.2
45-64	51.6
65+	7.9
n/r or <25	1.3

(H)HIGH SCHOOL	%
less than gr. 7	4.6
gr. 7-9	25.8
10-11	27.5
gr. 12	44.6
n/r or <1 year	1.3

(I)AGRIC. COLLEGE	%
2 years	2.1
>2 years	2.1
n/r or no agric.	87.5

(J)UNIVERSITY	%
1 year	5.0
1-3 years	8.7
4 years	6.3
>4 years	2.5
n/r or no univ.	82.5

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Table 2

Demographic Means on Continuous Variables

Demographic	Mean	N
Number of years owned	20.00	197
Years on farm	35.00	220
High School Grade	10.47	240
Size of Farm(acres)	374	232
Land cult.(rent+own)	395	232

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Analysis of variance was performed comparing sex to IPAT scores to see if females scored higher. Table 3 indicates that no significant differences were obtained. A Sheffe t-test for independent means gave exactly the same results.

Table 3

Analysis of Variance between IPAT total score and Sex

Group	N	Mean	S.Dev	MS	df	F	P
Male	129	25.19	11.35	479.13	1	3.47	.06
Female	107	28.06	12.21	138.01	234		

A. PAMS

A preliminary test analysis of the 11 subscales of the Personal Attitudes Measure of Stress (PAMS) as originally conceptualized was performed. It was found that most factors were low on internal consistency, but the CA-Scale had the highest reliability (alpha coefficient) on most of the subscales. The decision to use the CA-Scale for further analyses was based on the alpha's indicating more reliable information could be obtained rather than the other two scales.

Principal axis method of factor analysis with varimax rotations was performed on the PAMS three scales. All PAMS data uses an N=240 except when sex comparisons were involved.

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I-Scale

Four factors associated with stress on PAMS(I) were extracted. These were labelled finance (8 items), farm management (7 items), stress in communicating (9 items) and time (3 items). Variance accounted for by these factors was 99.3 percent. When analysing the data by sex slight differences occured. The variance accounted for by the five factors was only 7.7 percent higher for males. Finance did not appear as a factor for women, whereas time was slightly larger for men.

New subscales were formed by taking the highest

loadings above .4 on each factor. A test analysis indicated a total alpha of .916. Table 4 illustrates the observed reliability of these new subscales. They have a much higer level of consistency than the scales as originally conceived. No further analyses were done.

F-Scale

A similar procedure was followed as with the I-Scale. Four factors emerged. These were labelled farm management (7 items), time (5 items), security (4 items) and finance (6 items). Total variance accounted for by this rotation was 97 %. Factors for males and females indicated that men had somewhat different salient items on the factors than did women. Variance accounted for was 6.7% higher for men.

A second factor analysis of the twenty-two highest loadings items of the four factors mentioned above was done. Two factors were extracted labelled time stress (7 items) and stress related to farm management and health (8 items).

Test analysis of these two new subscales yielded observed alpha coefficients of .790 and .751 respectively. Table 4 illustrates this.

CA-Scale

The first principal axis method of factor analysis using a varimax rotation yielded five factors. These were labelled farm management (FM, 5 items), finance (F, 4 items), stress in communicating (C, 7 items), time (T, 3 items), and security (S, 3 items). Total variance accounted for was 99.9%.

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Table 4

Observed Alpha Coefficients for Revised PAM(I) and PAM(F) Subscales. N=240

	Scales			
	How Often		How Much	
Factors	(F)	#	(I)	#
Time	.801	7	.778	3
Farm Management	.758	8	.792	7
Communication			.809	9
Finance			.843	8
Subscale Total	.603	2	.828	4
Item Total	.821	15	.916	27

Separate analyses by sex produced five factors; again the males had 7.1% more variance accounted for by these. The factors also included two more items than the female data. Women had a factor associated with community concerns, whereas men had a factor associated with security related to retirement. All other factors were similar in content.

Five factor scores were created on this scale for each individual using the 40 items. The mean was set to 50 with a standard deviation of 10. This scale is used for all further analyses. Table 5 presents the factor loading matrix for the CA-Scale from which the factor scores were derived.

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Table 5

Factor Loading Matrix CA-Scale

	FM	F	C	T	S	h^2
Item 1	.364	.291	.248	.253	.017	.342
Item 2	.231	.171	.151	.645	-.025	.522
Item 3	.131	.020	.360	.171	.171	.205
Item 4	.077	.334	.085	.225	.115	.188
Item 5	.114	.205	-.022	.038	.657	.489
Item 6	.131	.558	.198	.171	.201	.437
Item 7	.163	.261	.148	.770	.012	.709
Item 8	.399	.060	.171	.337	.085	.313
Item 9	.277	.217	.148	.163	.096	.181
Item10	.503	.224	.080	.212	.107	.367
Item11	.569	.165	.124	.057	.050	.372
Item12	.447	.132	-.146	.241	.173	.326
Item13	.686	.088	.110	.027	.093	.500
Item14	.542	.107	.187	.057	.191	.380
Item15	.245	.688	.216	.220	.028	.629
Item16	.230	.337	.291	.240	.061	.312
Item17	.343	.366	.347	.172	-.062	.405
Item18	.333	.348	-.153	.178	.306	.381
Item19	.190	.628	.290	.154	.141	.558
Item20	.101	.097	.523	.159	.242	.377
Item21	.379	.185	.183	.034	-.156	.237
Item22	.130	.123	.556	.004	-.083	.349
Item23	.051	.299	.535	.029	.168	.407
Item24	.076	.293	.464	.399	.156	.491
Item25	.272	.716	.169	.002	.071	.620
Item26	.103	.030	-.158	-.085	.484	.278
Item27	.220	.186	.559	.323	.113	.513
Item28	.016	.087	.492	.387	.133	.418
Item29	.211	.075	.257	.270	.400	.349
Item30	.381	.359	.115	.206	.117	.344
Item31	.273	.347	.037	.172	-.015	.226
Item32	.349	.159	.053	.036	.036	.153
Item33	.395	.158	.262	.121	.167	.292
Item34	.259	.216	.359	.552	.010	.547
Item35	.364	.447	.101	.046	.286	.426
Item36	.162	.239	.250	.089	.082	.161
Item37	.313	.076	.304	.099	-.024	.206
Item38	.198	.375	.458	.034	-.084	.398
Item39	-.018	.119	.238	.298	.340	.276
Item40	.335	.298	.242	.125	.153	.299
% tot. Variance	25	24.6	21.9	17.8	10.6	

(h^2 is the communality estimate)

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Table 6

Correlations of IPAT, PAM(CA) and demographic data. N=240

	Factors				
	Farm Management	Finance	Communication	Time	Security
Soil	-.07	.02	-.07	.02	-.10
Farm Operation	.06	-.04	.07	.17b	-.03
Sex	-.19b	-.04	.11	.06	.14a
Age	.01	.03	-.23c	-.01	.11
High School	-.15a	-.07	.05	.08	-.13a
Anxiety	.02	.20b	.23c	.16b	.31c

a=p < .05, b=p < .01, c=p < .001 (two-tailed t-test)

B. Correlation Findings

Table 6 represents the correlations of the PAM(CA) factor scores factors with the various demographic information and the IPAT scores. All correlations are relatively low, yet some are significant.

Sex correlated on two subscales farm management ($r=-.19$, $p < .01$) and with security ($r=.14$, $p < .05$). Age showed a significant negative relationship with stress in communicating ($r=-.23$, $p < .001$). Having a high school education was inversely related to both farm management and security, ($r=-.15$, $p < .05$) and ($r=-.13$, $p < .05$) respectively. A significant relationship between time stress and type of farm operation was found ($r=.17$, $p < .01$).

An Analysis of Variance was performed subsequent to the

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correlation finding between type of farm operation and PAM(CA) time factor to determine which operation was in fact more stressful. A significant difference between means was found (df=4, 233, $p < .001$). A Sheffe pair-wise contrasts test indicated a near significant difference between grain and mixed farm operations (df=4, 233, $p < .06$). The mean time stress subcale score for grain operations was 46.25, for mixed 50.74, and for dairy operations 58.75. A significant difference on PAM(CA) time stress between grain and dairy farming operations was found (df=4, 233, $p < .01$). See table 7.

Table 7

Analysis of Variance between PAM(CA) time stress and Type of Farm Operation. Sheffe Pair-wise Contrasts.

Group	MS	df	F	P
Groups	441.19	4	4.69	.001
Error	94.15	233		

Group	Mean dif. sqd.	df	F	P
Grain-Mixed	20.11	4,233	2.30	.06
Grain-Dairy	156.30	4,233	3.85	.005

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The IPAT total score had significant relationships to both finance and time subscales of PAM(CA), ($r=.20$, $p < .01$) and ($r=.16$, $p < .01$) respectively. On communication stress ($r=.23$, $p < .001$) and security ($r=.31$, $p < .001$), the highest correlations to the IPAT score were found. The IPAT did not correlate with any of the demographic variables.

The demographic data had significant correlations on five variables. Table 8 shows the correlations. Age was related to soil type ($r=.13$, $p < .05$), and inversely related to both sex ($r=-.19$, $p < .01$), and having a high school education ($r=-.29$, $p < .001$). Soil type and type of farm operation were correlated ($r=.15$, $p < .02$). Sex and having a high school education were positively related ($r=.31$, $p < .001$).

Table 8

Correlations of Demographic Data

	Farm Oper.	Age	Gr1-12
Soil	.15b	.13a	-.07
Sex	-.05	-.19b	.31c
High School	-.09	-.29c	

a=$p < .05$, b=$p < .01$, c=$p < .001$ (two-tailed t-test)

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V. Discussion

> Agriculture Canada does a farm census every year and puts out recommendations. The Farm Rule of Thumb is 'always do exactly the opposite if you want to stay in Agribusiness.'
>
> Anon.

The discussion that follows relates to the research questions enumerated on the last page of Chapter 2. The data involving anxiety precedes the discussion of the PAMS findings.

Females do not appear to have higher anxiety than males on the farm. This does not support previous findings (Cattell et al, 1963) where females in a number of studies were found to have consistently higher scores than males. As a basic personality characteristic, it does not seem to be useful in predicting high stress scores. Does this imply that rural people are different somehow than urban people in terms of personality traits? Research evidence does not find anxiety as a predisposition to overreact to be consistently related to accidents or stress (NIOSH, 1974).

Anxiety was slightly related to PAM(CA) on four factors. Security, stress in communicating, finance and time subscales of the (CA) scale were associated with anxiety as measured by the IPAT. This is logical as uncertainty, expectations and anticipation are all components of anxiety. Worrying about the weather, fluctuating income (related to market conditions outside the control of the farmer), yield, anticipation of hail or rain during harvest time, family

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conflict, and retirement are bound to create stress related to both anxiety and stress. Farm management was unrelated to anxiety, perhaps because this has more to do with skills and abilities than worries per se or to circumstances outside of one's control. Anxiety was not associated with any of the demographic variables. This adds support to the hypothesis that, although related, stress is a more all encompassing concept than is anxiety. The implication is that PAM must be measuring something else. Does PAMS measure stress? Previous studies (Crocker 1980, Gogerty, 1978) tend to support the present findings. PAMS has been developed in terms of three scales. Reliability will be mentioned for all of these. Table 4 indicates reliability for PAM(F) and PAM(I) and table 5 indicates subscales created for PAM(CA).

The difference in procedures to delete items indicates that the (F)scale is more reliable than the (I). It measures two distinct factors, whereas the (I) scales overlap on various items. Different questions are answered by the two scales. Future research might use a combination of the types of questions and obtain as much or more information as the (CA) scale obtains at present. The original test analysis indicated higher alpha coefficients on two different subscales each for both the (I) and (F) scales than the (CA) scale.

The total alpha coefficient for the original (CA) scale by items was .920. The variance accounted for by sex suggests that this instrument is more applicable to the male

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member of the family unit. In order to make the PAMS more reliable several items would need to be removed and replaced by others. The PAMS is in a state of infancy and further test development is necessary before it should be used. However, as a first testing of the instrument, the internal consistency is excellent.

PAMS does not seem to be measuring a unitary factor 'stress' on any of the three scales. PAM(F) has high internal consistency for the time factor, though farm management is less clear. The reliablity coefficient indicates that these two subscales are different. PAM(I) has good reliability in communication and finance factors, and in terms of total item consistency (alpha=.916). Time and farm management factors seem to include items weighted on other factors as well. This scale could with further development approximate a single factor as the total consistency does not differ from each of the subscales.

The type of rotation forced the (CA) factors to be orthogonal or unrelated. This way of treating data separates items that are similar, by separating them between factors. This scale has been most clearly defined as five factors and stress does not appear to be a single phenomena.

Five demographic relationships were associated with PAM(CA). See Table 6. Although the correlations are modest, the trends are consistent.

Type of farm operation is associated with higher stress on the time factor. Further analyses indicated that dairy

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farmers suffer more from time stress than do grain farmers. The difference between grain and mixed farming in terms of time may be important to ascertain through future research, as this difference was not quite signifcant.

The older age group had less problems in communicating than did the younger group. This may be related to the fact that many younger wives are not coming from rural backgrounds and their attitudes and expectations are different than the older wives.

Various demographic variables were related to each other. Sex and education were mentioned above. A relationship between age and sex indicated that the women in the sample were younger than the men. It is a common occurence that the woman is younger than the man in marriages in our culture.

Soil type was found to be associated with type of farm operation and age. The soil classification system notes limitations on the lands capability for producing crops, so that this finding is self-evident. The better soil types were related to being older. Perhaps at the time of purchase or inheritence there was more land to choose from. The author is assuming that the older people in the sample have been farming the longest. All these correlations add credence to the correlations with PAMS being valid.

More education was indicative of less concern with farm management and security stress. Women had less concern over farm management and more concern with security needs than

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did the men. The demographic correlations also indicated that women in this sample had higher levels of formal high school education than did the men. Does this mean that women had less concern because they were better skilled at making the decisions or does this imply that they do not partake in handling the farm management?

The overall pattern of findings from the PAM(CA) scale supports previous studies (Crocker, 1980, Gogerty, 1978, & Unifarm, 1978). Major contributing factors to stress on the farm in order of importance are: farm management, finance, stress in communicating, time, and security. Farm management involves decision-making. This was ranked as being less important than finance in two studies, and comparable to a factor labelled 'work' in a third study. In the present study, variance accounted for by farm management was only slightly higher than variance accounted for by finance. All studies mentioned above confirm that finance is an important major contributing factor involved in stress for farm families.

Stress in communicating mainly involved family relationships. The present study compares to the Unifarm study to types of factors found, but has collapsed some of the variables involved into fewer factors. Time is comparable to time and work in the Unifarm study; security which involves uncertainty about the future in terms of retirement and the family breaking up are comparable to land use and retirement factors.

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There are limitations to generalizing the results beyond the sample. The focus of the study was on farm families, the patterns may be different for the single farmer. The order of importance and perhaps other concerns not identified may be related to the time of year the survey was taken. This study had 73% of its respondents having lived on the farm for more than 20 years. Stress factors could be of a different nature for those starting out without a rural background as Crocker, 1980 suggests.

PAMS needs to be refined and validated before it can be used as a stress scale. This study has not attempted to provide evidence of the relationship to accidents or illness or CHD but merely to describe and quantify those factors thought to be related to stress for the adult members of the family farm unit.

Recommendations for future research

As the current authors in OS state, stress should be conceptualized in terms of multiple measures. The present research has given the reader some notion of the scope of the problem. Further development of the PAMS may lead to predictive validity in terms of accidents or illness but in order to do this the important variables need to be defined. The physiological correlates, behavior patterns, personality characteristics, coping mechanisms in effect, and family support systems are all involved. The best approach would be to do a longitudinal case study of a rural family.

A follow up study of accident victims through the FAMS

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program could provide supportive predictive validity if the 10.4% of high PAMS scorers are found on the list and the low scorers are not. To summarize, The PAMS is moderate in reliablity. The factors are fairly definitive patterns around the concept labelled. Some supportive evidence is provided that anxiety and relationships with other demographic variables are associated with PAMS. A predisposition to anxiety does not seem to be a determining characteristic of stress, but is one slightly related to it. Anxiety as a self-reported measure of strain (state anxiety) would probably be a more useful way to relate it to stress.

The relationship between time stress and type of farm may be an important variable to take into consideration when discussing farm stress. Future stress workshops or programs might be more specifically applied towards the 'type' of farm rather than 'farming' per se. In conclusion, the study presents sufficient evidence that one can safely say 'hogwash' to the social myth that rural lifestyles are 'peaceful kingdoms.'

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VII. Appendix

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Engineering & Rural Services
Division

Pamela A.G. Grant
Agriculture Research Ass't

All District Agriculturists

February 10, 1980

427-2172

FARM STRESS SURVEY

A farm stress survey is being mailed out by Unifarm in each of the 64 Districts in Alberta. We, from Farm Safety and Unifarm Programs would appreciate it if you would encourage farmers and farm wives to fill it out. You may want to post this memo as well.

Feel free to contact me if you have any questions. We do think that this survey will be beneficial to agriculture.

J.L. Reid, Director
Engineering & Rural Services
Division

Pamela A.G. Grant
Agriculture Research
Assistant.

University of Alberta

Telephone: 429-5846

Women of UNIFARM

9934 - 106 Street
Edmonton, T5K 1E1, Alberta
Canada

Dear

The Women of Unifarm Workshops in 1978 and 1979 received a great deal of publicity and valuable information was compiled. Several requests have been made regarding these workshops.

In order to obtain further information, and to assist in preparing her thesis, Pam Grant, University of Alberta student, has prepared the enclosed surveys. Stress has been shown to be related to accidents and illness, and more data is needed.

Your help will be appreciated. Please read through the surveys, pencil in hand, and check (✓), circle (0), and mark your ideas as requested. The more people that fill this in, the more correct the picture will be.

Your individual answers will be kept in confidence. Of course, you can talk about them with anyone you wish.

Thanks for your co-operation.

Sincerely,

Leda Jensen
President, Women of Unifarm

P.S It would be appreciated if you complete the survey and mail it in the envelope provided prior to Feb. 28, 1980.

University of Alberta

Before we start, I'd like to know a little bit about your farm.
Please complete the following:

For Office Use Only

1. How many acres under cultivation are:
   Owned _____ (9)
   rented _____ (13)
2. How many acres not under cultivation are:
   owned _____ (17)
   rented _____ (21)
3. What is the number of the soil type of the largest area farmed?
   _____ (22)
4. What type of farming operation do you have? (check one)
   grain 1 (23)
   mixed 2
   poultry 3
   dairy 4
   hog 5
5. Are you the principal owners of the farm? (check one)
   yes _____ (24)
   number of years _____ (26)
   no _____
6. How many years have you lived on a farm (including owning it)?
   _____ (28)
7. Sex? check one. male 1
   female 2 (29)
8. Age? check one. 25-44 years 1
   45-64 years 2
   65+ years 3 (30)
9. What is the number of the last grade you completed?
   _____
10. How many years of agricultural college have you had?
    _____
11. How many years of university have you had?
    _____ (32)
12. Other courses, specify? _____ (33)
13. What is the land description of your house?
    _____ ¼ section _____ TWP _____ R. _____ W. _____ meridian (43)

Thank you, please go on to the next page.

University of Alberta

I WOULD LIKE YOU TO THINK ABOUT HOW MUCH THESE THINGS CONCERN YOU AND HOW OFTEN YOU THINK ABOUT THEM. PLEASE CIRCLE ONE NUMBER AND CHECK ONE BOX FOR EACH STATEMENT.

HOW MUCH? Not Concerned						Very Concerned		HOW OFTEN? Never –	Rarely Less than 12 times a year	Sometimes up to once a week	Often more than once a week	Always nearly every day	
1	2	3	4	5	6	7	1. farm wives and children provide many hours of unpaid labour						(44) (64)
1	2	3	4	5	6	7	2. no time to visit friends						(45) (65)
1	2	3	4	5	6	7	3. Family members not pulling their own load						(46) (66)
1	2	3	4	5	6	7	4. no worker's compensation						(47) (67)
1	2	3	4	5	6	7	5. having to move when retired						(48) (68)
1	2	3	4	5	6	7	6. Outings with friends expensive						(49) (69)
1	2	3	4	5	6	7	7. long hours of work mean no social time						(50) (70)
1	2	3	4	5	6	7	8. difficulty getting experienced dependable hired help						(51) (71)
1	2	3	4	5	6	7	9. values of new acreage owners different						(52) (72)
1	2	3	4	5	6	7	10. down time due to accidents						(53) (73)
1	2	3	4	5	6	7	11. budgeting and bookkeeping						(54) (74)
1	2	3	4	5	6	7	12. friends being in poor health						(55) (75)
1	2	3	4	5	6	7	13. making decisions to do with farm management						(56) (76)
1	2	3	4	5	6	7	14. prefer to do things by myself rather than hire help						(57) (77)
1	2	3	4	5	6	7	15. not enough cash for leisure activities						(58) (78)
1	2	3	4	5	6	7	16. poor weather leaves less time for recreation						(59) (79)
1	2	3	4	5	6	7	17. rely on family members to help with repairs						(60) (80)
1	2	3	4	5	6	7	18. health forcing me to retire						(61) (6)
1	2	3	4	5	6	7	19. can not afford personal items						(62) (7)
1	2	3	4	5	6	7	20. lack of privacy for me						(63) (8)

I WOULD LIKE YOU TO THINK ABOUT HOW MUCH THESE THINGS CONCERN YOU AND HOW OFTEN YOU THINK ABOUT THEM. PLEASE CIRCLE ONE NUMBER AND CHECK ONE BOX FOR EACH STATEMENT.

	HOW MUCH? (Not Concerned 1 2 3 4 5 6 7 Very Concerned)	HOW OFTEN?						
		Never	Rarely	Sometimes	Often	Always		
21.	Trespassing on my property, e.g. hunters, snowmobilers						(9)	(29)
22.	chauffering family members to recreation events						(10)	(30)
23.	argue with spouse over finances						(11)	(31)
24.	lack of time for myself						(12)	(32)
25.	lack of consistent farm income						(13)	(33)
26.	divorce settlements financially complex						(14)	(34)
27.	family time together is work time						(15)	(35)
28.	family members late for meals						(16)	(36)
29.	greater absence from farm breaks up family unit						(17)	(37)
30.	breakdown of machinery and appliances						(18)	(38)
31.	metric system						(19)	(39)
32.	garbage littered on countryside						(20)	(40)
33.	using friends equipment when ours is broken						(21)	(41)
34.	time pressure limits recreation						(22)	(42)
35.	planning for retirement financially						(23)	(43)
36.	gossipers						(24)	(44)
37.	involvement in community affairs						(25)	(45)
38.	hard to expand farm						(26)	(46)
39.	loneliness						(27)	(47)
40.	difficult to set up son on farm						(28)	(48)

PLEASE GO ON TO THE NEXT PAGE.

FSR

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(403) 427-2186 or 427-8943

March 7, 1980

Dear Farmers:

I am writing to let you know that I have not yet received the survey sent to you by the Women of Unifarm. I realize you may have forgotten about it as other things have come up. However, I am still interested in hearing your views.

If you have forgotten to return the survey because other things come up, please take a moment and drop it in the mailbox. If you do not wish to complete the survey, feel free to drop me a line with the returned survey.

Your answers or comments will help bring awareness to the real situation farmers are in today. Please return at your earliest convenience.

Thank you for your time.

Yours truly,

Pamela Grant

Pamela Grant
Research Assistant

PG/ps: